



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/500,366

06/28/2004

Massimo Maura

22106-00060-US1

7551

30678

7590

11/20/2007

CONNOLLY BOVE LODGE & HUTZ LLP

1875 EYE STREET, N.W.

SUITE 1100

WASHINGTON, DC 20036

EXAMINER

HEINRICH, SAMUEL M

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

11/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/500,366		MAURA ET AL.	
	Examiner		Art Unit	
	Samuel M. Heinrich		1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,5-16,18,19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 2,3,5-16,18,19 and 21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 3, 5-16, 18, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,268,555 to Jones et al in view of JP409139164A in view of JP360166167A in view of USPN 5,595,670 to Mombo-Caristan. Jones et al describe well known joining of contacts including laser welding of dissimilar metals. JP409139164A describes (Abstract and Figure 2) well known copper and silver contact. Mombo-Caristan describes YAG (solid state) laser welding. Mombo-Caristan describes (column 2, line 19 through column 3) well known angle of incidence of in the same direction as relative motion along the weld. Mombo-Caristan describe (column 19, lines

36+) producing an oblong beam spot and either leading or trailing the spot. Mombo-Caristan describes (Claims 1 and 28) aiming the laser onto at least one of the sheets. The use of an angle of incidence of 5-20 degrees during laser welding an aluminum plate to a copper body would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the angled beam can control porosity and push the melted spot forward. JP360166167A describes (Abstract Purpose) "starting welding from the section where the mass is large". Aiming the laser beam such that at least 70% of the molten material lies on the copper body side of the joint would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the copper has a higher melting point than the silver and because the weld spot can be maintained with adequate distribution of heat transfer and without weld dropout. Beginning of the weld on the larger heat sink body would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the solid state laser is readily available as a welding apparatus and because the heat capacity of the larger work piece is greater than the capacity of the smaller work piece and therefore requires more heat input than the smaller work piece in order to create a weld pool comprising melt from both work pieces. Varying the angle of incidence of the laser with respect to the work is a well known subject for course studies in welding and the use of a particular angle of incidence would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art depending on the work piece shapes, compositions, and orientations.

Claims 6, 7, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,268,555 to Jones et al in view of JP409139164A in view of JP360166167A in view of USPN 5,595,670 to Mombo-Caristan as applied to claim 21 above, and further in view of USPN 4,230,930 to Chang et al. The use of a flash layer of copper on a work piece is well known in the art as disclosed for example by Chang et al (DETX 7) "steel ... having a copper flash plating" and the use of a flash layer of copper on the silver work piece of Mattes would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the flash provides extended storage life and reduces bond pre-cleaning requirements.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art pertains to dissimilar metal joining and to silver plated copper.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel M. Heinrich whose telephone number is 571-272-1175. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Johnson can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/500,366
Art Unit: 1725

Page 5

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Samuel M Heinrich
Primary Examiner
Art Unit 1725

SMH